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ABSTRACT

This pamphlet is intended to assist managers and professional trainers alike in using a systems approach to training. Addressed in the individual sections of the guide are the following topics: identifying the training need (the main job objectives, the conditions under which the job is performed, and the responsibilities it involves); analyzing the training need (deciding whether training should be done on or off the job, identifying training priorities, and determining the performance standards to be achieved by the end of training); specifying the job (describing what the trainee will have to do after training, what judgments the trainee will have to make, and what factors the trainee will need to take into account); writing training objectives (each of which should include a performance statement, conditions under which the performance will take place, and performance standard); designing training (breaking down the identified training objectives into enabling objectives, determining training methods and media to be used, and identifying the type and place of tests and assessments throughout the training program); performing an internal validation (assessing training as it progresses in order to identify and deal with any problems, measuring the overall success of training, and identifying areas of weakness and appropriate remedial actions); and performing an external validation and evaluation (determining the relevance and transferability of training, its relative costs and benefits, and its value and usefulness as perceived from the point of view of the individuals involved in it). (MN)

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SYSTEMS APPROACH TO TRAINING

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FOREWORD

All who are involved in training and development, whether as line managers, managers of training or direct trainers realise the importance of good training and also appreciate the problems associated with achieving that end.

The approach outlined in this pamphlet, if applied, will ensure that training continues to be both effective and cost-effective. Effective in that it will ensure that training and development problems are tackled in a systematic way which will achieve the desired outcomes. Cost-effective in that it will provide sound information on which to make decisions on the use of resources.

I am pleased, therefore, to commend 'Systems Approach to Training' to line managers responsible for training and to professional trainers alike.

G. Bostock
Chief Training and Development Manager

INTRODUCTION

Whether you are a manager or a trainer you want to make sure that training in British Gas is efficient and effective.

Time, money and manpower are all limited and have to be used as effectively as possible. **The Systems Approach to Training** is a discipline intended to keep training economical, adaptable and relevant to the needs of all those who work in the gas industry.

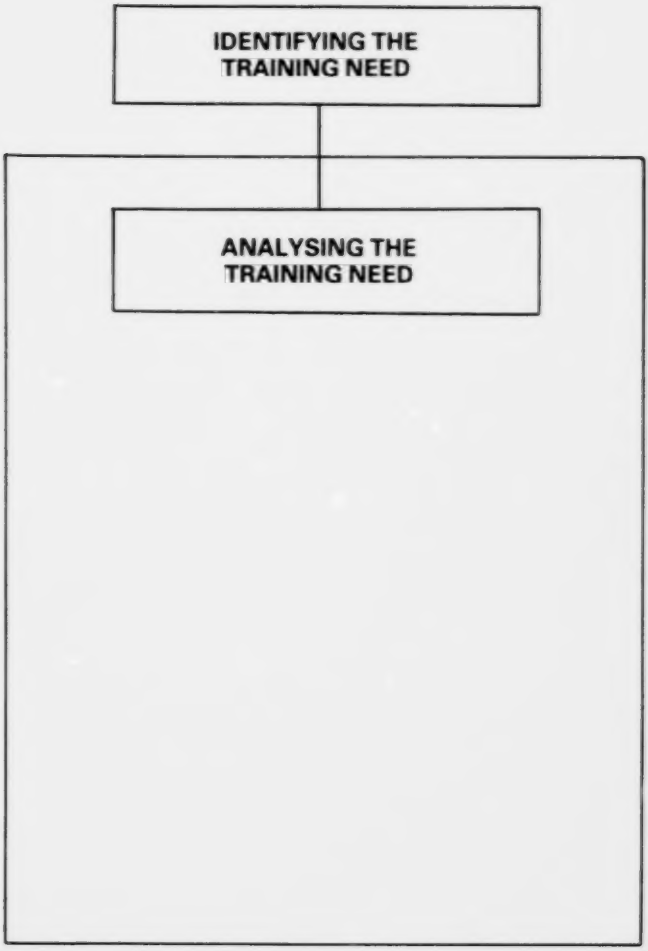
The Systems Approach is a logical and orderly method of both organising and continuously modifying and improving training. It does not replace trainers' experience, imagination and new ideas but rather provides a framework in which they can be better used.

Trainers will always have to exercise their judgement in planning and organising training. With the Systems Approach decision making becomes more methodical because those decisions are based on facts not guesswork.

Managers who are 'customers' for training will find it useful to understand what the Systems Approach is and how they can contribute to the continuing process of developing and improving training which meets the needs of our industry.

Line managers often present the training department with a clear case for training - for instance an experienced manager may be able to see the need for training to bring an employee's job performance up to the required standard.

However, few problems are so clear cut. In most cases the trainer and the line manager need to work together in order to consider all aspects of the problem and identify the specific training elements of the problem.


IDENTIFYING THE
TRAINING NEED
ANALYSING THE
TRAINING NEED

They will need to consider how individuals are fitted for a job through selection, occupational guidance, training and development. Looking at it another way they should consider how the job is fitted to the individual or group through methods and equipment design, physical and social working conditions and rewards. If they find that the problem represents a training need the next step is a careful analysis of **the training need**.

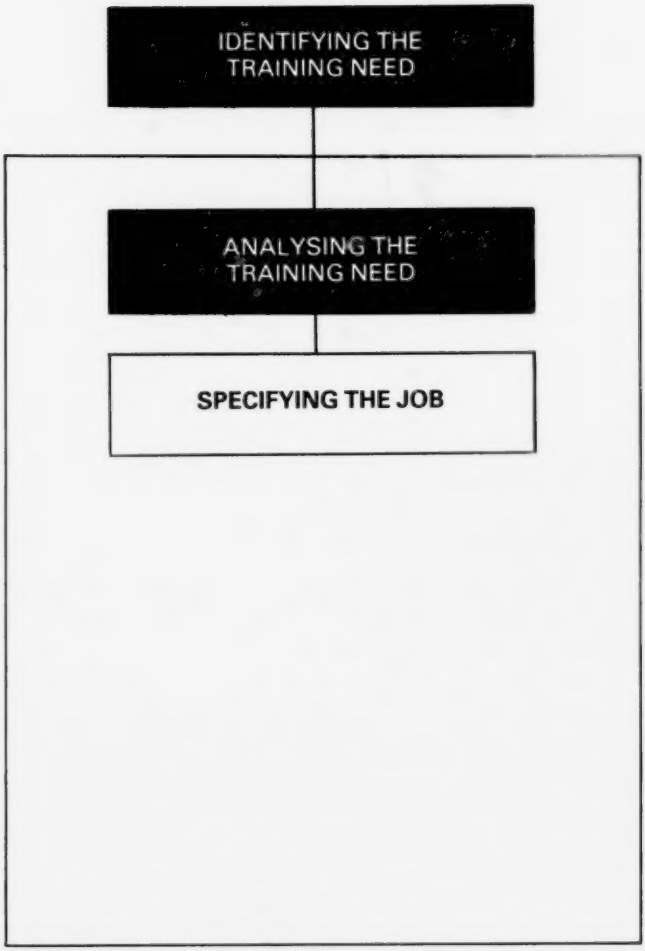
The primary purpose of a **training needs analysis** is to determine the central nature and content of the job. Otherwise the training provided might be irrelevant or insufficient. The information to be collected must cover:

- the main job objectives
- the conditions under which it is performed
- the responsibilities involved

The way in which this information is collected, and the categories to be included, naturally depend on the circumstances BUT it should enable the manager and the trainer to decide:

- whether training should be done either 'on' or 'off-job'
- what are the training priorities
- what performance standards should be achieved at the end of training

There are obviously different ways in which an analysis of training needs is carried out. Usually a structured interview forms the basis of the analysis. This preliminary analysis can be enlarged by using among other methods, questionnaires, work diaries and observations of job holders at work.


IDENTIFYING THE TRAINING NEED
ANALYSING THE TRAINING NEED
SPECIFYING THE JOB

This thorough analysis will reveal people's attitudes to their jobs - what they find difficult or irksome. It is particularly important when analysing supervisory and management jobs not to neglect attitudes by concentrating on skills and knowledge.

This analysis is primarily intended to establish the basis for training but it can have other benefits. It can lead to:

- changing the way tasks are carried out
- restructuring of a job
- establishing of recruitment and selection criteria

The end product of this analysis should be a **comprehensive specification for the job** which goes into more detail than the job specification used in recruitment and grading.

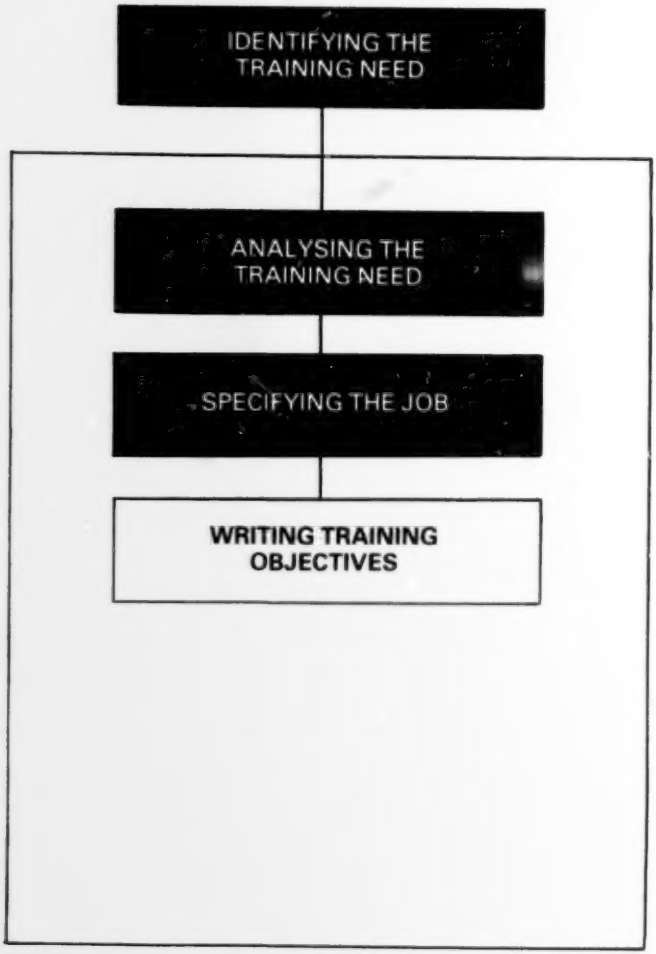
A training specification should describe clearly:

- what the trainee will have to do after training
- what judgements he makes
- what factors he takes into account

Moreover, it must be continually updated to take into account any changes which may occur in the job.

A job specification must include information on the important aspects of the job and will itemise some or all of the following:

- exact job title
- number doing the job
- job objectives - main and subsidiary


IDENTIFYING THE TRAINING NEED
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WRITING TRAINING OBJECTIVES

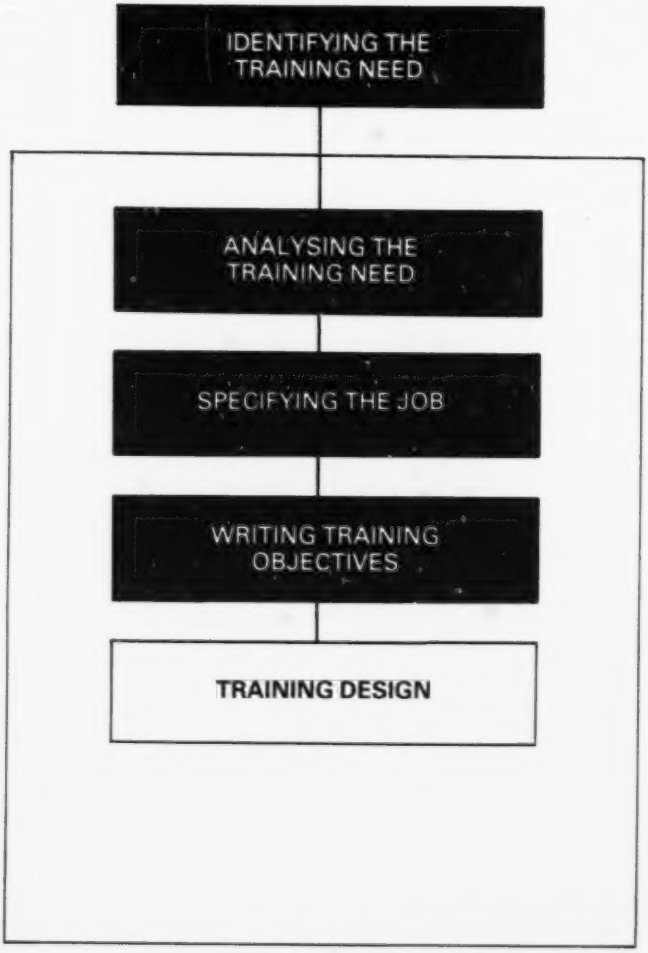
- job performance standards
- tasks - main and subsidiary
- physical, social and psycholgical conditions under which the job is performed
- responsibilities
- difficulties
- irksome tasks

The data obtained during the analysis of the training need as well as specifying the job will also enable the manager or trainer to write a **personnel specification**. A personnel specification describes the sort of person likely to do the job successfully, in terms of physical characteristics, attainments, general intelligence, special aptitudes, interests, disposition and personal circumstances.

It will, therefore, help the manager to allocate people to jobs and to select them for training. It will also indicate to the trainer the sort of person for whom training must be designed.

Both Job Specification and Personnel Specification are of little use if they are not kept up to date. As the job changes and the needs of the person filling it the specifications must be revised in order to reflect accurately the true nature of the job.

Training Objectives need to be clear and precise so that the line manager the trainer, the trainee and the tester know exactly what performance standard is required at the end of training. Without clear training objectives both trainer and trainee could be wasting valuable time and assessment testing, when applicable, could become at best haphazard and at worst irrelevant.


IDENTIFYING THE TRAINING NEED
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SPECIFYING THE JOB
WRITING TRAINING OBJECTIVES
TRAINING DESIGN

Each objective is made up of three parts and should specify the:

- Performance - what the trainee has to be able to do

- Conditions - the conditions under which the performance has to take place

- Standards - the level of performance expected

The performance, conditions and standards required should be laid down as far as possible for all types of training objectives. Objectives may cover skills, knowledge and attitudes and it is important to distinguish between them when deciding what type of training is appropriate.

Good training objectives are central to good training. Objectives written in behavioural terms, observable actions described by an action verb, are the essential basis on which good training is organised.

THE REQUIREMENT FOR TRAINING OBJECTIVES CANNOT BE OVER EMPHASISED.

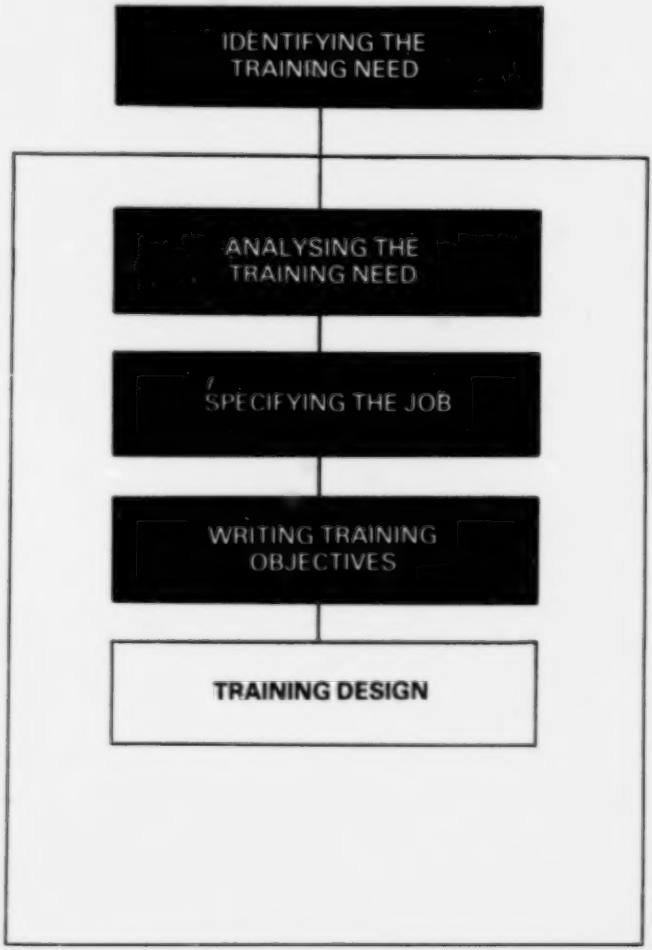
Without clear objectives systematic training design becomes almost impossible.

The exact content of the training programme is now determined by the **training design** team, they carry out a learning analysis which:

- breaks down the identified training objectives into enabling objectives

- determines the methods and media to be used

- identifies the type and place of tests and assessments throughout the training programme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TRAINING DESIGN

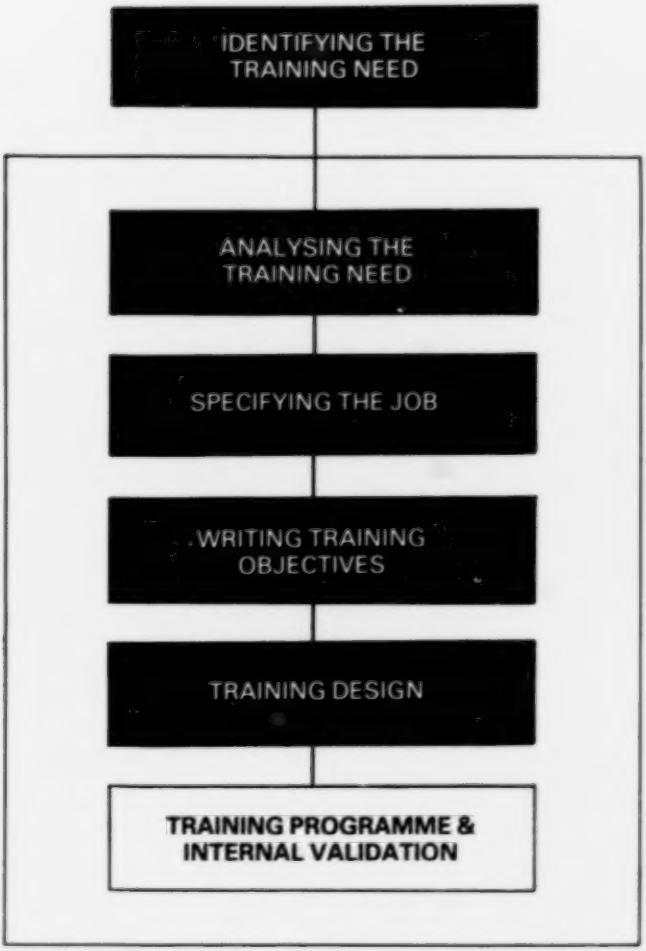
Enabling Objectives are objectives which are subordinate to the training objectives and set out in greater detail what the trainee must learn and do in order to satisfy the requirements of the training objective. For some training objectives there may be only two or three enabling objectives but for more complicated training objectives several enabling objectives may be required.

The designer now uses the enabling and training objectives to design the tests and assessments and identify appropriate points in the training programme when they will be used. Tests are used both to promote learning and also check on a trainee's mastery of the objectives. This use of tests enables the trainer to concentrate on the learning process and by motivating the trainee often speeds up his rate of learning.

Because everybody has his own style of learning the training designer must choose the method most appropriate to the subject to be covered and the people to be taught. The selection of the appropriate method is based on the categories of learning identified during the learning analysis. If training is to be effective then obviously the method of training has to fit the circumstances.

Careful consideration needs to be given to the choosing of the medium which will best support the method of learning already identified. It is emphasised that the medium is subordinate to the method, it is only the communication channel not the message.

It is inevitable that at this stage an assessment of overall cost in terms of instructors, equipment, space, time and materials will have to be made. This assessment may reveal that compromises have to be accepted, and priorities determined. It could also highlight the need for extended facilities and increased resources.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TRAINING DESIGN
TRAINING PROGRAMME & INTERNAL VALIDATION

The Training Design will have determined the form in which the training is to be offered. This could be for instance:

- some form of unstructured or structured course
- structured on-job training
- modules
- distance learning packages

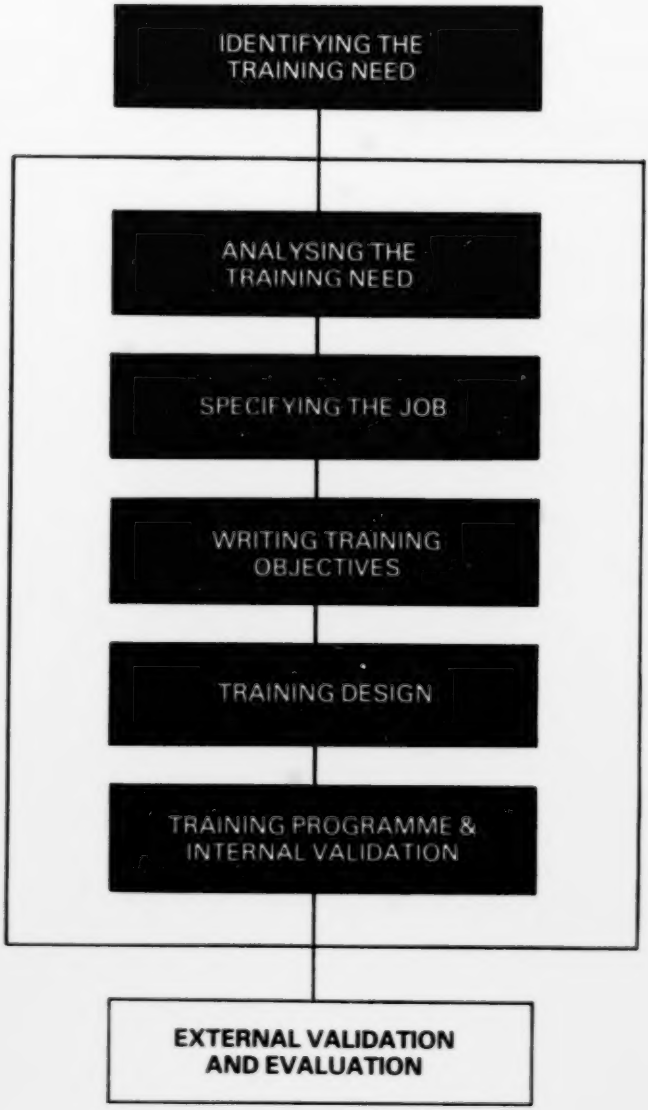
Whatever form the training takes it has to be validated internally that is answering the simple question 'Has the training done what it set out to do?'.

Internal Validation involves checking whether training has achieved the training objectives which were specified. It concerns itself with:

- assessing training as it is carried out so that any problems can be identified and immediately dealt with
- measuring the overall success of the training
- identifying areas of weakness and recommending remedial action

By monitoring trainees' and trainers' performance, training methods and objectives, internal validation maintains a constant check on whether trainees are achieving what they set out to do.

Internal validation is only the first step in checking the validity of any training programme. The second step, which relies on the first is to conduct an External Validation exercise.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EXTERNAL VALIDATION AND EVALUATION

External Validation is designed to check that the:

- training reflects the requirements of the job
- trainee's job performance has improved as a result of training
- trainees can transfer their learning to the job environment

The process of validation leads to the collection of large amounts of data. As well as the tests used to control the progress of training, questionnaires, interviews and work diaries can produce this data. However, this data is only reliable and valid if the collection methods have been carefully designed and piloted.

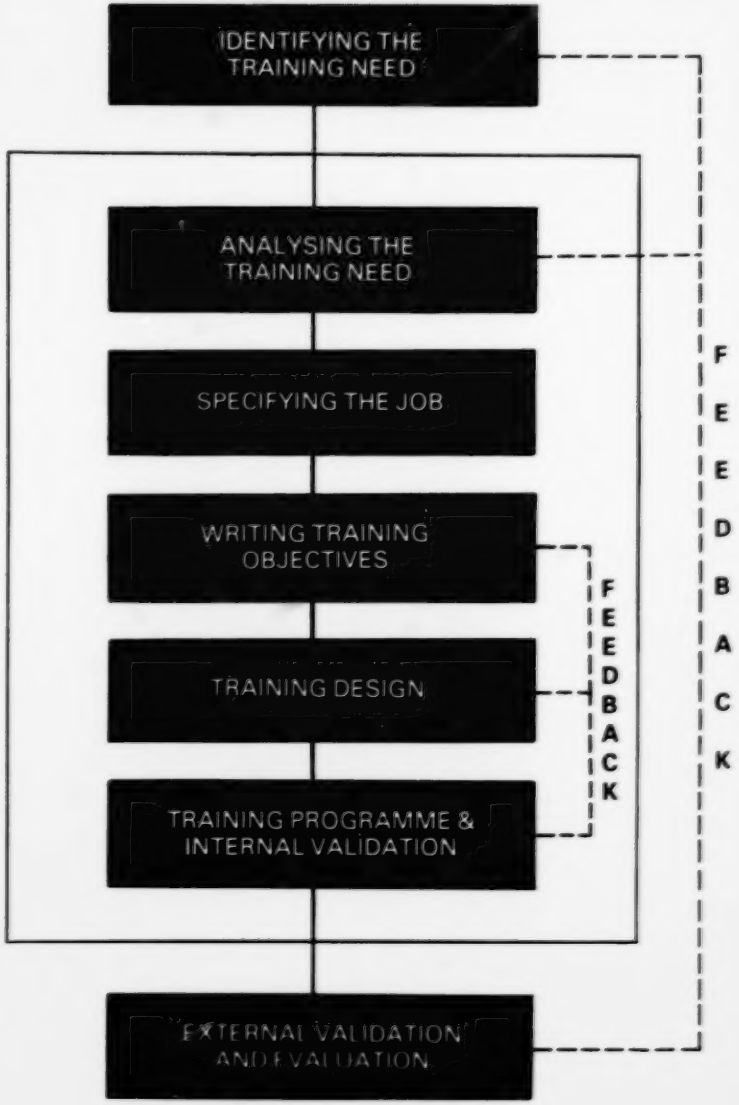
Validation is concerned with whether training works - **Evaluation** looks at whether it is worthwhile. Evaluation is concerned with:

- the cost benefit of training, in monetary terms
- the perceived value and usefulness from the point of view of the people involved

Because of the difficulty of quantifying this sort of information we must rely on judgements based on information collected from trainees, supervisors and managers.

The crucial feature of the systems approach to training is its continuous nature, so that the effectiveness of training is under constant review. This is achieved by the **feedback systems** mentioned at various points already.

The feedback loops allow training to respond quickly and easily to change. This adaptability depends upon effective feedback throughout the system and in particular to formalised validation.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FEEDBACK
FEEDBACK

THE SYSTEMS APPROACH TO TRAINING keeps training relevant and continuously improving, it must therefore, be appreciated by managers, trainers and trainees.

Managers must be committed to:

- careful selection of personnel for training
- briefing them before training and debriefing them afterwards
- helping them to put training into practice

Without managers' co-operation and their feedback, the best organised training effort loses its impact. The adaptable nature of the Systems Approach allows a review of training to begin at any point within the system.

This pamphlet has, in the main, concentrated on the overall training design. However, it is important to apply this systematic approach to the individual parts of the system in order to get full benefit from the Systems Approach.

It is only by constant review and adaptation that training can be both effective and relevant and reflect the needs of a changing industry.